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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,054	07/14/2003	Zhongze Wang	2269-3541.3US (97-0855.03)	7663
24247	7590	11/19/2004	EXAMINER ESTRADA, MICHELLE	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			ART UNIT 2823	PAPER NUMBER

DATE MAILED: 11/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,054

Applicant(s)

WANG ET AL.

Examiner

Michelle Estrada

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 14-22 is/are rejected.
- 7) ☒ Claim(s) 6-12 and 23-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komenaka (5,914,524) in view of Endo et al. (5,990,537).

With respect to claim 1, Komenaka discloses an insulating substrate (41); a refractory metal nitride layer (102) disposed above the insulating substrate; a conductive layer (101) disposed over the refractory metal nitride layer.

Komenaka et al. do not disclose that the conductive layer is a tungsten silicide layer.

With respect to claims 1 and 22, Endo et al. discloses that the fuse may be made of a tungsten silicide layer (Col. 4, lines 37-40).

It would have been within the scope of one of ordinary skill in the art to combine the teachings of Komenaka and Endo et al. to enable the material of the conductive layer of Endo et al. to be used in the process of Komenaka et al. because one of ordinary skill in the art would have been motivated to look to alternative suitable materials to be used in the disclosed conductive layer of Komenaka et al. and art recognized suitability for an intended purpose has been recognized to be motivation to combine. See MPEP 2144.07. Furthermore, it would have been within the scope of

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one of ordinary skill in the art to form the fuse in an isolation region to electrically isolate the active regions.

With respect to claims 2 and 15, Endo et al. discloses wherein the insulating substrate is an isolation region (34), it would have been within the scope of one of ordinary skill in the art to form the fuse in an isolation region to electrically isolate the active regions.

With respect to claims 3 and 16, Endo et al. discloses wherein the isolation region is a field oxide region (36).

With respect to claim 4 and 17, Endo et al. discloses wherein the field oxide region is disposed on a semiconductor substrate (31).

With respect to claim 5 and 18, Endo et al. discloses wherein the semiconductor substrate is a silicon wafer (Col. 4, lines 4-20).

With respect to claim 14, Komenaka discloses an insulating substrate (41); a refractory metal nitride layer (102) disposed above the insulating substrate; a conductive layer (101) disposed over the refractory metal nitride layer.

With respect to claim 19, Komenaka discloses wherein the refractory metal nitride layer includes titanium.

With respect to claim 20, Komenaka discloses wherein the refractory metal nitride layer comprises titanium nitride.

With respect to claim 21, Komenaka discloses wherein the conductive layer is a metal (Col. 6, lines 1-24).

Allowable Subject Matter

Claims 6-12 and 23-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 8/16/04 have been fully considered but they are not persuasive. Applicant argues that Komenaka et al. do not disclose a silicide layer disposed over the refractory metal nitride layer as amended claim 14. However, the Examiner presents a new ground of rejection necessitated by the amendment to claim 14, thus Endo et al. disclose that tungsten silicide is a suitable material for a fuse.

Applicant argues that Komenaka et al. do not disclose a tungsten silicide layer disposed over the refractory metal nitride layer as recited claim 1. However, Komenaka et al. was not relied on upon for that purpose. Endo et al. was relied on for the teaching that a tungsten silicide is a suitable material for a fuse.

Applicant argues that in Endo et al. neither the metal guard ring 41B, the passivation layer 38 nor the nitride 39 are formed over or part of the fuse. However, the additional teachings of Endo et al. do not render invalid the teaching relied on, which is that tungsten silicide is a suitable material for a fuse.

Applicant argues that Endo et al. do not disclose that the fuse a tungsten silicide layer is disposed over the refractory metal nitride. However, Endo et al. was not relied

on upon for that purpose. Komenaka et al. was relied on to teach a fuse layer over a refractory metal nitride.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

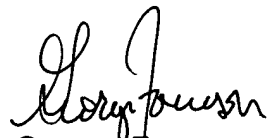
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Estrada whose telephone number is 571-272-1858. The examiner can normally be reached on Monday through Friday.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


George Fourson
Primary Examiner
Art Unit 2823


MEstrada
November 2, 2004